



Telescope and Instrument Observing Specialist

The Atacama Pathfinder Experiment (APEX) Observatory and the Millimeter and Submillimeter Astronomy Department of the Max-Planck-Institut für Radioastronomie (MPIfR) in Bonn, Germany, in collaboration with the Pontificia Universidad Católica de Chile (PUC) in Santiago, are seeking a highly motivated Electronics or Computer Engineer, Physicist or Astronomer with a strong software background to join our team as an **Observing Specialist**.

The successful candidate will be part of the APEX project, and she/he will contribute to the scientific operation of the observatory, giving support to external multinational teams coming to observe with the APEX telescope.

Application:

Interested candidates should send **ALL the application materials in English** (preferably in a single PDF file), including a letter of motivation, CV, a two-page summary of relevant experience, and the names of two professional referees who have been asked by the applicant to be willing to submit letters of recommendation by email to: jobs@apex-telescope.org - Only applications including the full set of material requested will be considered.

Deadline for applications is 26 May 2025.

Initial review of applicants will begin on **26 May 2025**, but **applications will be accepted until the position is filled.**

Due to travel requirements and the duty station, aptness to work at high altitude and a positive Geographic Altitude (up to 5.500 masl) medical certificate will be required prior to a contract offer.

About APEX:

The Atacama Pathfinder EXperiment (APEX) is a forefront 12m sub-mm single dish telescope located on the Chajnantor Plateau in the Chilean Andes at 5100 m.a.s.l. The APEX observatory hosts a suite of cutting-edge mm and sub-mm instrumentation, including single and multi-pixel heterodyne instruments as well as bolometer and KIDs cameras (<http://www.apex-telescope.org>). It has been conducting ground-breaking observations and exciting research on the cold Universe for more than 19 years. It plays an important role not only as a pathfinder, but also as a complementary instrument for ALMA and the Event Horizon Telescope (EHT). Large programs such as ATLASGAL, SEDIGISM, and LESS have been ground-breaking for research on the dense galactic interstellar medium and the early Universe, respectively.

Main Duties and Responsibilities:

We seek a telescope and instrument observing specialist for the APEX observatory. She/he will join a team of scientists, engineers, and technicians, in total 20 people. She/he will be responsible for the operations and maintenance of the antenna, support observations in service mode, develop calibration and quality control procedures for the instruments, control the configuration of the system, and improve or develop operation procedures for the telescope. The main tasks of the successful candidate will include, but will not be limited to:

- Operate the telescope and instruments mostly from the base station, and occasionally from the Chajnantor site at 5100m, in collaboration with an astronomer, but also independently following preset guidelines prepared by astronomers. Daily observing shifts last 8 hours and alternate between morning and night shifts on a weekly basis.
- Process the collected data and contribute to the initial quality assurance to decide on the observing program.
- Log and document the conducted observations, observing downtimes, and timely report issues found.
- Train visiting astronomers for observations at APEX and be a contact point for observations.
- Monitor the performance of instrumentation, the antenna system as well as the observing software, reporting issues found during operation and participating in their troubleshooting, in collaboration with staff astronomers and engineers.



- Design, develop, implement and maintain software tools useful for the operation (observation preparation, data reduction, monitoring, etc), in collaboration with other members of the team.
- Participate in the commissioning of instruments.
- Occasionally perform regular maintenance of instruments and supporting maintenance activities at the high site.

Location and Working Conditions:

- The position is based at the APEX Observatory near San Pedro de Atacama, Chile, with occasional travel to the telescope at 5,100 m.a.s.l.
- The position involves 40 working weeks in regular 7-day shifts at APEX, full lodging accommodation provided on site, followed by 7 days off-shift.
- Office space is also provided at the Astro-Engineering Center (AIUC) PUC in Santiago, Chile, in case required during the off-shift period.

Reports to:

The science operations team comprises staff astronomers, telescope and instrument observing specialists. As a member of this group the observing specialist reports to the Science Operations Team Leader.

Desired Experience:

The candidate should have a profound experience in at least two of the following areas:

- Data analysis (statistical analyses, data mining, trend analysis)
- Machine learning and AI techniques
- Database administration and handling using SQL
- Multi-system software/hardware communication (e.g. CORBA)
- System or network administration under LINUX
- Atmospheric science and techniques
- RF electronics

Key Competences:

Personal skills:

- Ability to autonomously organize and carry out tasks and small projects
- Good time management and multi task working
- High sense of responsibility in the delivery of tasks on time and according to the required standard.
- Able to early identify problems and proactively develop solutions
- Willingness to learn and deal with new situations and issues
- Work under pressure in harsh environments (high altitude)

Team working skills:

- Contributes ideas for improvements and developments to pursue common team goals.
- Has a flexible attitude to team roles; shares and documents own knowledge, experience and skills to enable others to meet team and organizational goals.
- Is comfortable working as part of a team, sharing responsibilities and proactively interacting with other team members and visitors

Self-development skills:

- Develops own skills and ensures that learning and development needs are identified, solutions are found, and outcomes are evaluated.



Required Qualifications:

We seek professionals with a solid background in physics, astronomy, computer science, electronics engineering or equivalent. A university degree and/or experience in telescope and instrument operations would be assets but are not required. Candidates should have the ability to work independently as well as members of a team. Other required qualifications are:

- High motivation and willingness to work on shifts and especially at night time shifts
- Programming skills in some mayor language (e.g. Python and its major packages, PHP, JavaScript, C, C++)
- Excellent communication and collaboration skills.
- Excellent English language fluency (written and spoken) to work in our multi-national environment.
- Ability to work effectively in an international, multicultural, and multidisciplinary team.
- Chilean Class B driver's license and correspondent driving skills to commute between the basecamp and the Chajnantor site.

Compensation and Benefits:

- Salary is paid in Chilean Pesos with a monthly gross starting at \$1,800,000 and higher, depending on qualifications.
- The initial appointment is until December 31st, 2028, with the possibility of extension.

EEO/AAP Policy Statement:

APEX and PUC are an equal opportunity employers committed to fostering an environment that welcomes and embraces diversity, and does not discriminate on the basis of race, color, creed, religion, origin, disability, age, sexual orientation, or marital status in its activities, including employment, admissions, and educational programs.

For more information:

- APEX website: <https://www.apex-telescope.org/>
- PUC Faculty of Engineering and Sciences: <https://www.ing.uc.cl/en/academicos-e-investigacion/>
- MPIfR Millimeter and Submillimeter Astronomy Department: <https://www.mpifr-bonn.mpg.de/research/submm>
- MPIfR Star Formation and Galaxy Evolution Department: <https://www.mpifr-bonn.mpg.de/research/galaxies>

Other Chilean and University employment benefits may be found in:

- Foreign workers in Chile: <https://www.dt.gob.cl/portal/1626/w3-article-93693.html>
- University rules and regulations: <https://direcciondedesarrolloacademico.uc.cl/politicas-y-reglamentos>
- All members of the Pontificia Universidad Católica de Chile subscribe the Code of Ethics that can be found in <https://www.uc.cl/codigo-de-honor/>